REMARKS

Claims 6 and 9–14 are pending in this application. By this Amendment, claims 6 and 9 are amended, claims 1–5, 7, and 8 are canceled, and claims 10–14 are added. Support for the amendments to the claims may be found, for example, in the claims as originally filed, and in the specification at page 11, lines 12–16 (claim 12); page 12, lines 26–32 (claim 13); and page 9, lines 19 to 22 (claim 14). No new matter is added.

New claims 10 and 11 are product claims that depend from product claim 6 and, thus, should be grouped and examined with claim 6. Non-elected claim 9 has been withdrawn from consideration by the Examiner. New claims 12–14 are process claims that depend from non-elected process claim 9.

In view of the foregoing amendments and following remarks, reconsideration and allowance are respectfully requested.

I. Rejection Under 35 U.S.C. §102

The Office Action rejects claims 6 and 7 under 35 U.S.C. §102(a) and (e) over U.S. Patent Application Publication No. 2004/0087440 to Kuno (herein "Kuno"). By this Amendment, claim 7 is canceled, rendering its rejection moot. As to claim 6, Applicant respectfully traverses the rejection.

By this Amendment, claim 6 is amended to recite:

> 6. An exhaust gas purifying catalyst comprising platinum supported on a metal oxide particle comprising a core part and a surface layer, wherein:
>
> a molar fraction of cerium and zirconium constituting a ceria-zirconia solid solution in the core part is higher than a molar fraction of the cerium and zirconium constituting a ceria-zirconia solid solution in the surface layer; and
>
> a molar fraction of cerium constituting ceria in the surface layer is higher than a molar fraction of the cerium constituting the ceria in the core part.

Despite its asserted teachings, Kuno fails to expressly or inherently disclose each and every feature of claim 6.

The Office Action, on page 3, asserts that Kuno discloses a catalyst comprising a core with a ceria/zirconia solid solution and a surface layer of ceria, citing to Example 2 of Kuno for support. Applicant respectfully disagrees.

Kuno describes its invention as an exhaust gas purifying catalyst "wherein the metal oxide particles have cores comprising larger molar amounts of zirconia than of ceria, and surface layers comprising larger molar amounts of ceria than of zirconia." *See* paragraph [0010]. Kuno further discloses that the zirconia may form more than 80 mol %, 90 mol %, 95 mol %, 98 mol %, or preferably substantially all of the core of the metal oxide particles. *See* paragraph [0018]. Kuno describes in paragraph [0042] that the "metal oxide particles prepared by the method of the present invention" were analyzed, and a "Ce and Zr distribution within the metal oxide particle obtained by the transmission electron microscope (TEM) and energy dispersive X-ray analyzer (EDX) shows that almost all metal elements at the surfaces of the particles are Ce and that almost all metal elements at the cores of the particles are Zr" (emphasis added).

Example 2 of Kuno cited by the Office Action discloses that catalyst 2 was prepared according to Example 1 except that the amounts of ceria sol and zirconia sol were different, and an aqueous solution comprising nitric lanthanum and nitric praseodymium was used instead of the yttria sol. The process steps for making the catalyst in Example 1 (and thus Example 2) appear to correspond to Kuno's "method of the present invention." As such, it would be expected that almost all metal elements at the surfaces of the particles are Ce and that almost all metal elements at the cores of the particles are Zr, as Kuno describes in paragraph [0042] as the result of using its disclosed methods. There is absolutely no indication in Example 2 that the core produced comprises a ceria/zirconia solid solution as

asserted by the Office Action, let alone provide any indication of a molar fraction of cerium and zirconium constituting a ceria-zirconia solid solution in the core part, and/or a molar fraction of the cerium and zirconium constituting a ceria-zirconia solid solution in the surface layer.

As such, there is nothing in Example 2 that expressly or inherently discloses the catalyst of claim 6, nor is there anything else asserted by the Office Action that supports the rejection of claims 6 over Kuno. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

II. Rejection Under 35 U.S.C. §103

The Office Action rejects claims 6 and 7 under 35 U.S.C. §103(a) over U.S. Patent Application Publication No. 2204/0186016 to Bog et al. (herein "Bog"). By this Amendment, claim 7 is canceled, rendering its rejection moot. As to claim 6, Applicant respectfully traverses the rejection.

Claim 6, as amended, is set forth above. Bog, in paragraph [0031], discloses Ce/M^1 mixed oxide particles that may be coated with an oxide of metal M^2. The Office Action, on page 4, acknowledges that Bog does not teach an example with ceria as the second metal (M^2). However, the Office Action asserts that Bog suggests in paragraph [0031] that rare earth metals can be used. The Office Action concludes that "it would have been obvious to one of ordinary skill in the art to use ceria in the place of lanthanum in order to affect the predictable result of forming an exhaust gas purifying catalyst/oxygen storage material." *See* page 4. Applicant respectfully submits that the disclosures of Bog fail to support the Office Action's conclusions.

Paragraph [0031] of Bog discloses, "M^2 may be selected from the group consisting of aluminum, magnesium, zirconium, silicium, titanium, gallium, indium, lanthanum and mixtures thereof....The most preferred M^2 metal is aluminum. In another preferred

embodiment of this invention, the oxide of metal M^2 is admixed with an oxide of a rare earth metal, preferably with lanthanum oxide" (emphasis added). As such, Bog discloses that an oxide of a rare earth metal may be added to and mixed with the M^2 oxide; Bog does not in any way teach or suggest that the rare earth metal oxide replaces the M^2 oxide.

Example E9 of Bog, cited by the Office Action, does not support the Office Action's position. Example E9 discloses a Ce/Zr mixed oxide with an Al/La mixed oxide coating, where the Al/La mixed oxide coating had 40 mol % Al and 3 mol % of La calculated on the basis of the weight of the Ce/Zr mixed oxide. Thus, the molar fraction of La in the surface layer is only 7% ([(3 mol % La)/(40 mol % Al + 3 mol % La)] x 100). Example E9 discloses the molar fraction of cerium in the core is 80%. Accordingly, even if the lanthanum of Example E9 is substituted with cerium as proposed by the Office Action, the molar fraction of cerium in the surface layer would only be 7% while the molar fraction of cerium in the core would be 80%. This does not meet the requirement of "a molar fraction of cerium constituting ceria in the surface layer is higher than a molar fraction of the cerium constituting the ceria in the core part" recited by claim 6.

For at least this reason, claim 6 would not have been rendered obvious by Bog. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

III. New Claims

By this Amendment, new claims 10–14 are presented. As indicated above, new claims 10 and 11 are product claims that depend from product claim 6 and, thus, should be grouped and examined with claim 6. Claims 10 and 11 are believed to be patently distinct over the applied references for at least the reasons discussed above with respect to claim 6. New claims 12–14 are process claims that depend from non-elected process claim 9.

IV. Rejoinder

Independent claims 6 and 9 have in common the technical feature of a metal oxide particle comprising "a core part and a surface layer, wherein: a molar fraction of cerium and zirconium constituting a ceria-zirconia solid solution in the core part is higher than a molar fraction of the cerium and zirconium constituting a ceria-zirconia solid solution in the surface layer; and a molar fraction of cerium constituting ceria in the surface layer is higher than a molar fraction of the cerium constituting the ceria in the core part."

For at least the reasons discussed above, the applied references do not teach or suggest at least these features common to independent claims 6 and 9. As such, these features define a contribution over the prior art and, thus, define a special technical feature as set forth in PCT Rule 13.2. Accordingly, Applicant respectfully submits that unity of invention exists between independent claims 6 and 9. As such, rejoinder and favorable consideration of claim 9 and its dependent claims 12–14 are respectfully requested.

V. Conclusion

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of the application are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

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